

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/010912

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ B23B27/20, 27/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ B23B27/20, 27/14, 27/00, B23C5/16, B23B51/00, B23P15/28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2005
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 6-190610 A (Osaka Diamond Industrial Co., Ltd.), 12 July, 1994 (12.07.94), Claims; Fig. 4 (Family: none)	1-5
A	JP 63-237803 A (Mitsubishi Electric Corp.), 04 October, 1988 (04.10.88), Claims; Figs. 1 to 4 (Family: none)	1-5
A	JP 2003-117717 A (Sumitomo Electric Industries, Ltd.), 23 April, 2003 (23.04.03), Claims; Par. No. [0019] & US 2003/0133763 A1 & EP 1332820 A1 & WO 2002/034442 A1 & JP 2002-200518 A	1-5



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search
26 August, 2005 (26.08.05)Date of mailing of the international search report
13 September, 2005 (13.09.05)Name and mailing address of the ISA/
Japanese Patent Office

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 5-8104 A (Toshiba Tungaloy Co., Ltd.), 19 January, 1993 (19.01.93), Par. No. [0010]; Fig. 2 (Family: none)	2, 3